1995 ANNUAL REPORT

DIVISION OF
SITE INVESTIGATION & REMEDIATION

BUREAU OF
HAZARDOUS MATERIALS & SOLID WASTE CONTROL

Introduction: 1995 was a year of both external and internal changes, beginning with a new administration and finishing with the announcement of changes brought on by the Productivity Realization Task Force and ME2K. Division staff continued their diligent efforts to identify and mitigate threats to human health and the environment. 1995 Division staff are identified at the end of this report.

SPECIAL PROJECTS AND WORK GROUPS 1995 ACCOMPLISHMENTS

In 1995, DSIR staff participated in the following special projects/work groups:

- Prequalified Contractor Work Group
- Soil Cleanup Work Group
- TQM Automated Time and Attendance Process Action Team
- TQM Contracts/Procurement Process Action Team
- TQM Facilitator Pool
- Facilitation of Quality Council Meetings
- Facilitation of Enforcement Bureau Merger Team for BL&W
- CERCLA Reauthorization Work Group
- ASTSWMO Voluntary Cleanup Task Force
- NEWIPCC Environmental Infrastructure Technical Committee
- Air Emission from Remediation Sites Work Group
- Communication/Coordination Work Group
- Bureau Safety Advisory Committee
- Bureau Soil Sampling SOP Group
- Public Water Supply Investigation Group
- Maine Groundwater Resources Database Work Group

POLICY AND PROCEDURES

During 1995, the DSIR continued to work on procedures and policy statements including:

- Point of Entry Treatment System (POETS) Policy (Draft)
- Technical Basis Statement and Background for Soil Cleanup Guidelines Based on Direct Contact
- Draft Rule for Site Remediation
- Draft DEP Direct Contact Soil Guidelines
- Decision Tree for Air Emissions from Remediations (Draft)

UNCONTROLLED SITES PROGRAM

Activities of the Uncontrolled Sites Program (USP) in 1995 consisted of residential well and ground water well monitoring, the review of a number of technical reports and analytical data submitted by other parties, and oversight of the Federal Remedial Program in addition to State site remediation efforts. The state process for site remediation comprises private party cleanups through formal agreements, for example, Administrative Orders by Consent, and if necessary enforcement efforts as well as State funded cleanups with cost recovery efforts.

The following site-specific narratives represent highlights of 1995 Uncontrolled Site Program activities:

McKin Site, Gray

The McKin Site (Site) in Gray, Maine, operated as a waste collection and transfer station from 1964 until 1977. Complaints from nearby residents alerted local officials in 1973 of contamination of area groundwater. Investigations of the Site found that the soil and groundwater were contaminated, primarily with trichloroethylene (TCE) and 1,1,1-trichloroethane (TCA).

The Maine Department of Environmental Protection (DEP) and the U.S. Environmental Protection Agency (EPA) worked together to remove waste from the Site and to conduct a study of the nature and extent of contamination. A cleanup remedy was selected in 1985 and was documented in the Record of Decision. The remedy called for cleanup of contaminated site soils and restoration of area groundwater. The soil cleanup was successfully completed in 1987 by the parties deemed potentially responsible (PRPs).

The PRPs began operation of the Groundwater Extraction and Treatment System (GETS) in 1990 to restore the area groundwater. Since that time up until mid October 1995, the GETS had been extracting and treating contaminated groundwater. In addition, EPA and DEP have been working with the PRPs to evaluate the GETS and to better understand the movement of contamination from the Site through the groundwater. This ongoing evaluation has shown that, although some contamination has been removed from the aquifer, it would take many years (perhaps several hundreds) to fully restore the area groundwater so that it could be used for drinking water.

Presently, a portion of the Royal River near the Site exceeds the water quality standards for consumption of water and fish because contaminated groundwater originating from the Site is discharging to the river. It does not exceed standards for fish consumption alone. In other words, contamination from the Site should not be of concern to people eating fish from the Royal River. However, there would be a concern if someone were to be eating fish and using the river water as a long-term source of drinking water.

The first part of 1995 found the DEP and EPA involved in discussions with the PRPs regarding the process to be conducted by the PRPs to obtain a technical impracticability (TI) waiver of the requirement to restore the area groundwater. The DEP, EPA and PRPs decided on the process in September 1995, which resulted in an amendment to Appendix A to the Consent Decree (Work Plan) and began the development of a report, "An Evaluation of Technical Impracticability of

Groundwater Restoration and Feasibility Analysis of Remedial Alternatives for the McKin Superfund Site" (TI Evaluation). Also, the DEP and EPA approved of a temporary shutdown of the GETS in October 1995, while the TI Evaluation report is drafted and finalized. Presently, the GETS is scheduled to be reactivated on April 1, 1996.

A public meeting was held on October 25, 1995, in the Town of Gray, Maine to update the area citizens and officials of the Site activities and status. Also, the DEP and EPA attended a McKin Trustee meeting, held in December 1995, in Portland, Maine to update the PRPs of the Site activities and status.

Engineering Industries, Inc., Norway

EII operated from 1977 until January 1991 as a research laboratory for development of pavement and resurfacing materials. The product was used in the manufacture of coal-tar based sealing materials for driveways, parking lots, air runways, and similar surfaces. Products developed at the laboratory facility were manufactured and distributed off site. An environmental audit of the property in 1991 indicated the presence of volatile and semi-volatile compounds in the groundwater wells at the site. A Preliminary Assessment (PA) was conducted 6/93, and a Site Investigation (SI) completed 9/94.

The town of Norway assumed ownership of the site through tax deficiencies in the spring of 1995. Town officials provided a key to the laboratory building, and DEP DSIR/OHMS staff conducted a partial inventory of the contents of the laboratory building on 6/7/95.

DEP staff and Norway public officials performed an inspection to define any potential source areas outside the buildings. Source area 1 was discovered when stained soil was observed in the driveway behind the office building. Source areas 2 and 3 were discovered when subsurface investigation revealed the location of a dry well and the location of the septic system.

It was determined that hazardous substances were present in the laboratory which posed a threat to human health and safety by virtue of their reactivity, corrosivity, ignitability, or flammability. It was decided to remove these substances as expeditiously as possible. A scope of work (SOW) to remove the laboratory chemicals and the contaminated soil from Area 1 was prepared and sent to three (3) removal contractors. Quotes from the contractors were received and evaluated. General Chemical Corporation was selected to conduct the removal action. The work was performed on 8/3/95.

Subsequent sample analyses proved that both areas were contaminated, and were continuing to contribute to the groundwater contamination. A second SOW was prepared and sent to three (3) removal contractors. General Chemical was awarded the job, and conducted the removal action of source areas 2 and 3 on 10/25/95. Samples collected at the perimeter and bottom of the excavations confirm that the heavily contaminated material was removed, and that only residual contamination remains. The Town of Norway provided clean fill material and, once the excavation were filled, reseeded the areas .

Water samples from on-site monitoring wells continue to be collected every three months. The samples are analyzed for pertinent hazardous substances by the state public health laboratory. Evaluation the sample

results indicate a decrease in contaminant concentration levels.

Sanford Municipal Landfill

The Town of Sanford developed and operated a municipal landfill from the early 1950's to 1982 by filling former sand and gravel excavations and wetland areas on the banks of the Mousam River in the vicinity of Rushton Street. Over the years the landfill was used for disposal of municipal, commercial, and industrial waste. A 1979 Administrative Consent Agreement between the Town of Sanford and the Department called for the cessation of disposal of solid waste, the application of a soil cover to exposed portions of existing waste, and the construction of a transfer station. These tasks were completed by 1983. Unfortunately, these simple procedures did not adequately address environmental and human health threats posed by the situation of the landfill below the water table and adjacent to the river.

On the basis of relative risk to the public health and to the environment, the Department in 1989 ranked the Sanford Municipal Landfill among the five highest priority sites among a list of 72 "improperly closed, inactive, and abandoned municipal and privately-owned landfills." This evaluation was, in part, based on open exposure of landfill leachate contaminating surface water flowing directly into the Mousam River.

After referral of the site to the Landfill Closure and Remediation Program in 1989, the Department funded an extensive GZA Geoenvironmental, Inc. Site Investigation from 1990 to 1992. GZA recommended remediation of the landfill site in its final report in 1992. Negotiations between the Town and the Department in 1993 and 1994 got off the ground with the organizing of a steering committee in the spring of 1995 to oversee issues relating to the cleanup of the landfill and to coordinate cleanup activities with the DEP. The steering committee officially designated the Rushton Street Task Force consisted of twenty interested citizens, town officials, and representatives of the Board of Selectmen. The first meeting, of twelve meetings to be subsequently held in 1995 by the Rushton Street Task Force (RSTF) and attended by a representative or representatives of the Division, was held on May 11.

Following an offer of partial funding of the reclosure of the landfill through the Landfill Closure & Remediation Program in June, progress toward initiation of cleanup activities was initiated by the presentation of a mission statement by the Task Force to the Department at a meeting held on July 27. The essential components of a Feasibility Study (FS) were subsequently negotiated with the Task Force by members of the Division with support from the Division of Technical Services in two meetings held in September and October. The results of these meetings were memorialized in a report submitted to the Department in the last week in November by technical consultants retained by the Task Force. The report outlined the three remedial options considered in the FS process, and detailed the conceptual framework for the chosen option. The report was reviewed by members of the Division and conditionally accepted. Remediation will include the application of a clay/soil cover over 13 acres of the landfill, the installation of a shallow groundwater collection and treatment system to prevent discharge of leachate to the river, and the placement of a soil cover over

leachate contaminated sediments lining a currently open drainage ditch. Remedial Design and performance data and evaluation is scheduled for 1996, with construction to begin in the spring of 1997.

Allen's Garage Site, North Jay

The Allen's Garage Site, adjacent to Route 17 in North Jay, is the location of an automotive repair shop and gas station which operated between 1960 and 1986. Owner disposal of spent solvents containing chlorinated benzenes was accomplished through a floor drain which discharged to the ground surface behind the garage. In 1990, while excavating for an addition to the Allen residence, workers noted strong solvent-like odors. Construction was terminated and the DEP notified. Sampling and analysis done by DEP Response personnel confirmed the presence of Volatile Organic Compounds (VOCs). While installing temporary monitoring wells during a 1992 investigation to begin characterization of the VOC problem, DEP staff encountered more than a foot of free phase petroleum product in two wells.

GZA GeoEnvironmental, Inc., was contracted in the fall of 1994 to work as a partner with DEP staff to remove oil from the overburden as quickly as possible to help prevent migration. This was the first of a planned two-phased approach to remediation. The second phase was to follow the typical remedial investigation/feasibility study pattern, focusing on the VOCs. Two recovery wells were installed, one in each end of what appeared to be a cigar-shaped free product plume. After several months of monitoring these wells, and being able to recover only a very small amount of the free product, this phase was abandoned. Attention was then directed to the second phase. Using several team brainstorming sessions with participation by both GZA and DEP staff, a field investigation program was designed with two objectives--one, to evaluate the risk related to this site, and two, to characterize contamination at the site. The plan called for an extensive groundwater sampling program to be implemented over a two-week period by staff from both GZA and the DEP. Quick turnaround chemical analysis of samples was to be accomplished using an on-site mobile lab. Temporary monitoring wells were to be located on roughly concentric circles emanating from a center in the garage area. Starting at the inner circle, detection of VOCs at any well point would show that sampling should be done on that radius moving out to the next circle. The program was implemented in September, most of the work was done in the first week with only a small number of wells installed during the first two days of the second week. A base of operations was set up in the Grange Hall (for a minimal rental fee) adjacent to the site. Analytical results for each well location were plotted on a D-Scale site plan as soon as they were provided by the mobile lab. Decisions on well locations were made immediately upon receipt of analytical results jointly by the GZA project manager and the DEP geologist. This quick analytical response allowed, upon completion of a well, for each of the two crews, comprised of mixtures of consultant and DEP staff, to move to a new location. In total, thirty-seven wells were installed, both soil and water samples taken and analyzed, and the plume fully delineated by non-detects in all directions from the site. The Remedial Investigation Report and the Risk Evaluation Report will be completed by GZA in the first quarter of 1996. The feasibility study then will be developed utilizing team sessions and

the FS Report completed by GZA during the second quarter of 1996.

STATE LEAD SITE CLEANUPS 1995 ACCOMPLISHMENTS

The Sanford Landfill Site in Sanford officially became a *Designated Uncontrolled Hazardous Substance Site* in 1995.

A lawsuit filed by the Attorney General's Office on behalf of DEP with regard to the U.S. Navy's failure to respond to the draft Administrative Order by Consent for the Hooper Sands Road Site was settled via a *Consent Decree* for recovery of $1,006,875.00 from the United States Department of Defense.

Settlement Negotiations with responsible parties were held for the Southern Maine Finishing Site in Waterboro, the L.E. MacNair Site in Houlton, the Brewer Junkyard Site in Brewer, the Portland Bangor Waste Oil Site in Wells, the Spaulding and Frost Site in North Anson, the White's Wharf Site in Biddeford, the Fox/Abel Marine Property in Southwest Harbor, the Duga Property in Pembroke, Northeast Doran in Skowhegan, and G & L Machine in Paris.

Notification of Potential Liability letters were issued for the Portland Bangor Waste Oil Site in Wells, the L.E. MacNair Site in Houlton, the White's Wharf Site in Biddeford, the Milmac Property Site in Unity, and the Waterville Gas site in Waterville.

Site Investigation Plans were approved and the field phase of the investigations completed by private parties with DEP oversight for the L.E. MacNair Site.

DEP Lead Site Investigations took place at the following sites: Engineering Industries, Incorporated, Norway; Allen's Garage, Jay; Peterson's Farm Store, Colby; Aroostook State Farm, Presque Isle; Limerick Mill Complex, Limerick; Boggy Brook Vocational Center, Ellsworth; Robbins Property, Ellsworth, Leeman Property Site in Bristol, the Marine Trade Center Site in Eastport, and the Fox/Abel Marine Property Site in Southwest Harbor.

Source control activities were completed at the Engineering Industries, Incorporated site, Norway, Spaulding & Frost in North Anson, and the Fox/Abel Marine Property Site in Southwest Harbor.

Public Meetings with municipal officials and concerned citizens were held in Gray, South Hope, Plymouth, Brewer, Saco, Scarborough and Corinna.

Remedial Investigations are on-going at the Dauphin Landfill, Bath; Waterboro Patent Lagoons, Waterboro; Brewer Coal Tar Pit and Brewer Junkyard, Brewer; New England Pole and Treating Site, Yarmouth; Maine Leathers, Dover Foxcroft; Peterson's Farm Store, Colby; Engineering Industries, Incorporated, Norway; Robbins Property, Ellsworth; Allen's Garage, North Jay; L.E. MacNair Building, Houlton; Seaway Boats on Route 202 in Winthrop; Willow Street Junkyard in Augusta; the Menard Property Site, Biddeford; and the Corinna-Main Street Site; Corinna.

Remedial actions are underway at: GE Bangor (Building 30), Tex Tech Industries, Monmouth, GTE Waldoboro, Rumford National Graphics, Belfast, Peterson's Farm

Store, Colby, Farwell Mill, Lisbon, and the York County Sheriffs Office Site in Alfred

State funded Removal Actions were completed at Milmac, Unity, Maine Resources, Brooks, Fox/Abel Marine Property Site, Southwest Harbor, Huff Property in Alfred, Engineering Industries, Incorporated in Norway, and the Duga Property Site in Pembroke.

No further (State) action (NFA) required status was recommended/achieved at Limerick Landfill, Spaulding & Frost in North Anson, Harry's Pit Sites in Limerick, Huff Property Site in Alfred, Boggy Brook Regional Vocational Center in Ellsworth and Hendersons Farm in Littleton.

Cost Recovery funds were received pursuant to the North Berwick Municipal Garage Site Agreement, the Merrill Transport Agreement, the Rumford National Graphics of Belfast Agreement, the GE Bangor Sites, the Spaulding and Frost Site in North Anson, the Union Chemical Company Site in South Hope, and voluntarily from the owner of the Duga Property Site in Pembroke.

PRP Search continued for the Portland Bangor Waste Oil site in Wells. This former oil recycling facility involves thousands of potentially responsible parties, and reaching a settlement with such a large number of parties will be a challenge for USP and AG staff. By the end of 1995, the draft volumetric ranking had been completed and DEP had sent notice of potential liability letters to the biggest parties and held an informational meeting for these parties.

Liens were filed on the Erb/Mount Vernon Pallet Mill Property Site.

Institutional Controls (Deed Restrictions) were placed on site for the Spaulding and Frost Site in North Anson, and were incorporated into 5 VRAP Certificates of Completion.

Municipal Waterlines were completed at Corinna for the Corinna Water District (funded by Eastland Woolen Mill, Federal grants and FAME); title to the water system at the Hows Corner Site was transferred from the EPA to the DEP.

Bioassessments of surface waters were conducted in conjunction with the Bureau of Land and Water Quality at the Mousam River downstream from the Sanford Municipal Landfill. Results of the bioassessment conducted in 1994 were received for the McKin Site in Gray. These results show that benthic macrofauna in the Royal River and Collyer Brook have not been impacted by ongoing discharges from the site.

Operation and Maintenance Activities continued at the Miltonia Management Site in Acton which included the repair of the fence and signs, inspections of the cap and dikes, and sampling of nearby residential wells. Operation and Maintenance activities at the Saco Tannery Pits Superfund site were assumed by the Department from EPA in April of 1995. The activities included inspection and repairs to the cover systems and fence, mowing the covers, annual residential well sampling, quarterly groundwater monitoring, surface water, and sediment sampling. Operation and Maintenance activities continued at the Hows Corner Site which included annual ground water monitoring, and monitoring the operations of the water system, now owned

by the State and operated by the Plymouth Water District.

Title Searches, which identified current ownership, were completed for the Limerick Mill Complex, Limerick and the Milmac Site in Unity.

New Sites assigned to project managers include Milmac, Unity; Lewiston Gas Works, Lewiston; O'Connor Willow Street, Augusta.

Sites Deferred to other programs include Bangor Gas Works site deferred to VRAP, and Fayscott in Dexter to RCRA.

Requests for Proposals were distributed for the Portland Bangor Waste Oil Site, Wells and the Wilner Wood Products Facility, South Paris. A contract was encumbered with Robert G. Gerber Inc. for the Wells site and contractor selection has been completed for the Wilner Wood Site**.**

Requests for Quotes were distributed for the Brewer Coal Tar Site, Brewer, Engineering Industries, Incorporated in Norway, and Peterson's Farm Store, Colby.

Uncontrolled Sites staff participated in the *Rushton Street Task Force* for the Rushton Street Landfill Site in Sanford. By the end of 1995 a conceptual plan for closure and remediation of the site had been submitted to DEP for approval.

Residential Well Monitoring

Division staff continued to conduct periodic monitoring of groundwater in residential wells and where necessary maintain carbon filters in the vicinity of the following sites:

- Southern Maine Finishing, Waterboro
- Miltonia Mills, Management, Acton
- Portland Bangor Waste Oil, Wells
- Blackstrap Road, West Cumberland
- Boggy Brook Vocational Center, Ellsworth
- Robbins Property, Ellsworth
- Peterson's Farm Store, Colby
- Harris Road, Cumberland
- Saco Tannery Pits, Saco
- Limerick Mill Site, Limerick

Division staff continued to oversee private parties' monitoring of residential wells in the vicinity of the following sites:

- Tex Tech Industries, N. Monmouth
- Union Chemical Co., South Hope
- GTE Sylvania, Waldoboro
- Main Street, Corinna

Division field staff assisted Technical Services staff with the investigation of numerous public drinking water supplies which had been referred by DHS due to contamination concerns. Sites investigated by SIR OHMS included:

- Marine Trades Center, Eastport
- Leeman Property, Bristol
- Heritage Apartments, New Sweden
- Mapletree Estates, Mapleton
- Mapleton Elementary School, Mapleton
- Creative Apparel, Belmont
- Maine Wild Blueberry, Machias

Ground Water Monitoring

Division staff continued to conduct periodic sampling of monitoring wells at the following sites:

- Blackstrap Road, W. Cumberland
- Southern Maine Finishing**,** Waterboro
- Waterboro Patent Corporation, Waterboro
- Aroostook State Farm, Presque Isle
- Peterson's Farm Store, Colby

- Engineering Industries, Inc., Norway
- Saco Tannery Pits, Saco
- Wilner Wood Products, South Paris
- Kerramerican Mine, Blue Hill
- G & L Machine, Paris
- Hows Corner, Plymouth

Other Technical and Analytical Data

Division staff continued to review technical and analytical data submitted by other parties at the following sites:

- Brewer Junkyard, Brewer
- Corinna-Main Street, Corinna
- Dauphin Landfill, Bath
- Farwell Mill, Lisbon
- GE Buildings #10, #30, Bangor
- GTE Sylvania, Waldoboro
- Key Bank Plaza, Brunswick
- McKin Site, Gray
- Merrill Transport, Portland
- N. Berwick Mun. Garage, N. Berwick
- O'Connor Junkyard, Augusta
- Pinette's Salvage Yard
- Saco Municipal Landfill, Saco
- Rumford National Graphics, Belfast
- Tex Tech Industries, North Monmouth
- Union Chemical Co., South Hope
- Van Buren Madawaska, Keegan
- Winthrop Landfill, Winthrop
- D&S Corporation, Bangor
- Menard Property, Biddeford
- York County Sheriffs Office, Alfred
- New England Pole & Treatment Co., Yarmouth

FEDERAL REMEDIAL PROGRAM 1995 ACCOMPLISHMENTS

During 1995 two Hazard Ranking System packages were finalized. West Site How's Corner, Plymouth was proposed for Final Listing on the NPL in September and Eastern Surplus, Meddybemps was proposed for Listing (Not Final) in October. Neither Hooper Sands Road, South Berwick or Main Street, Corinna HRS packages are finalized. Neither of these is expected to be listed. Currently, 10 Maine sites are listed on the National Priorities List (NPL). Three of the 10 current NPL sites are Federal Facilities addressed by a separate group in the Department. 1995 achievements at the 7 sites overseen by the USP are as follows:

Saco Municipal Landfill

The first nine months of 1995 were consumed by negotiations among the City of Saco, the U.S. EPA, and the Maine DEP which led to a three-party signing of the Administrative Order by Consent (including the Statement of Work) for conducting the Remedial Investigation and Feasibility Study for this Superfund/NPL site. Following the signing of the AOC, the City of Saco via their consultant, Woodard and Curran, submitted the Work Plan for the field portion of the RI and in November the field program was started. The cooperative effort by all four key organizations (EPA, DEP, City of Saco, consultant), demonstrated by a teaming approach to development of field plans and corresponding documents, was the key ingredient in allowing a field operation to be accomplished in acceptable weather conditions in 1995. This has reduced the time to completion of the RI/FS by as much as one full year. Completion of the RI/FS in the fall of 1996 will provide the opportunity also to complete the Proposed Plan by the end of 1996. It is expected that the site will follow a SACM approach for landfills, which will again allow for expeditious completion of the remediation (closure). Still unknown is the affect of the other 14 PRPs, now having

requested deminimus status, on the schedule for work beyond the RI/FS.

McKin Site

Based on available Site information, the DEP and EPA determined that the existing Groundwater Extraction & Treatment System (GETS) would not be expanded. A temporary shutdown of the GETS was approved, an amendment to the remedial action plan was signed by all parties and a first draft Evaluation of Technical Impracticability for Ground Water Restoration was submitted and reviewed. A public meeting was held in October to discuss the technical impracticability of aquifer restoration using the GETS and to open a dialog with concerned parties regarding future options for the site. As a result of the public meeting numerous calls and requests for information were received from the media and general public. DEP attended a meeting of settling parties at the request of the McKin Site Trustees.

Saco Tannery Waste Pits Site

In early spring minor failures in the Lagoon II cover system were repaired by the contractor for EPA. On April 11, 1995 the Department, EPA, and their contractor conducted a pre-final inspection of the site. The Department developed an Operations and Maintenance Plan and assumed O&M responsibilities in April of 1995. The activities included inspection and repairs to the cover systems and fence, mowing the covers, annual residential well sampling, quarterly groundwater monitoring, surface water, and sediment sampling.

The Department also entered negotiations with FAME for recovery of costs associated with O&M.

Union Chemical Company Site

The remedial design for the source control (vapor extraction with a groundwater extraction & treatment component to lower the water table) were finalized and construction activities initiated. The construction of the remediation system (Soil Vapor Extraction (SVE) and Groundwater Extraction & Treatment System (GWETS)) was completed in late 1995 and testing of the treatment equipment began An Open House was held in the Treatment Building on December 2, 1995. Regular meetings throughout the year were held with the citizens group.

Pinette's Salvage Yard

All remedial action activities were completed in 1993. EPA continued their study of Management of Migration of
contaminants related to the PCB spill. The onsite monitoring wells and residential wells were sampled quarterly through 1995. At the end of 1995 all groundwater data from the previous five years was evaluated to determine future actions.

From the evaluation it was determined that pump and treat of the groundwater to meet target clean up levels was not required as specified in the Record of Decision. The contaminants had decreased below action levels over time as a result of source removal activities and through natural soil attenuation.

Winthrop Landfill Site

Operation of the Ground Water Extraction & Treatment System (GWETS) commenced in February of 1995 and operation of the Vapor Extraction System (VES) continued. Trouble shooting activities with regards to the GWETS were conducted until full operation of the GWETS occurred in September 1995. The trouble shooting consisted of changes to the treatment process to deal with fouling of treatment equipment and construction of a reinjection trench at R2A & B. Also, late in the year, plans to construct a reinjection trench at R1B were initiated. Seep remediation activities were postponed due to unfavorable lake levels and access issues.

O'Connor Junkyard

In February of 1995 the 60% Remedial Design for Source Control for this Superfund/NPL site was submitted to the U.S. EPA and the Maine DEP. This design was based on solvent extraction technology as the primary method of remediation. As the CMP design team worked toward the 95% Design submittal date, it became apparent that the selected technology would not be cost effective--estimates of costs for Source Control (SC) remediation were reaching toward $35,000,000. At this point CMP asked for and received a six-month schedule delay to give them time to look at other alternatives and their respective costs. CMP proposed the contingent remedy which consisted of removal of materials contaminated above target levels and subsequent appropriate disposal off-site. The proposal was accepted by the EPA and the State; a revised schedule was adopted which calls for submittal of the Final Remedial Design in June, 1996, and completion of the SC remedial action in the fall of 1997. The design schedule for the Management of Migration (MOM) portion of the remediation runs in parallel with the SC design; however, additional studies undertaken in the fall directed at providing a better understanding of oil in overburden, bedrock, and groundwater, and how this product might affect SC and MOM remediation, may lead to revisions to both designs. Changes in the MOM design will probably require that a schedule for MOM design and remediation be separate and distinct from that of the SC.

FEDERAL SITE ASSESSMENT PROGRAM

Two staff members within the Division have total responsibility for submittal of the federal deliverables to EPA under the Federal Site Assessment Program. The federal site assessment reports have not only removed several sites from Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS), but they have also generated dialogue with site owners regarding the re-use of their properties. Properties which are currently being negotiated include the Industrial Box and Lumber site in Parsonsfield, Flo-Jo Contracting in New Sharon, the Fore River site in Portland, Cornwall Industries in Baldwin and the Central Chemical site in Greene, Maine.

Preliminary Assessments completed in 1995:

- Limerick Mill Complex, Limerick
- Kerramerican Mine, Blue Hill

Site Inspections completed in 1995:

- Harris Road, Cumberland
- Wilner Wood Products, Paris
- Brewer Junkyard, Brewer
- Old Bonafide Industries, Winthrop

Site Inspection Prioritizations completed in 1995:

- Portland-Bangor Waste Oil, Casco
- Callahan Mining Corp., Brooksville
- Gray Municipal Landfill, Gray
- White's Wharf, Biddeford
- Dauphin Disposal Area, Bath
- Sanford Municipal Landfill, Sanford
- Flo Jo Contracting, New Sharon
- Farwell Mill, Lisbon
- Central Chemical Corp., Greene
- Maine Resources, Brooks

Site Inspection Prioritizations submitted in 1995 but not finalized:

- Rotary Park Site, Biddeford
- Industrial Box & Lumber, Parsonsfield
- A.C. Lawrence, Paris

Hazard Ranking System placed on National Priorities List (NPL) in 1995:

- West Site Hows Corner, Plymouth

Hazard Ranking System proposed to the NPL in 1995:

- Eastern Surplus Co., Meddybemps

Hazard Ranking System Package finalized but not listed on NPL:

- Hooper Sands Road, South Berwick

VOLUNTARY RESPONSE ACTION PROGRAM (VRAP)

In 1995, the VRAP Program added 14 new sites, to bring the program total to 53 sites. Of these 53 sites, 11 were remediated and/or resolved to the Department's satisfaction in 1995, to bring the total number of sites resolved to 32 since the inception of the program in December 1993. Remedial actions are completed at 6 other sites, with final resolution anticipated during early 1996. Five sites currently have remedial actions in progress, and five sites have planned remedial actions for 1996. The other five sites are awaiting further investigation and/or the development of remedial plans. The VRAP Program received $7741 in fees in 1995.

Some specific site highlights of 1995 include:

Scarborough Tar Pit (aka Hamlin Pit)-Scarborough

Northern Utilities, as the primary responsible party at the site and the current owner of the property, hired ABB Environmental Services to conduct a remedial investigation at the property and develop a remedial action plan.

The site was the location of coal tar waste dump. Partial removal efforts were undertaken by the DEP in the early 1980's, but continuing "seepage" of coal tar was witnessed in the 1990's. Characterization of the contaminated material indicated that it did not qualify as a hazardous waste.

The remedial action plan was approved by the VRAP Program in November, and remedial actions began shortly thereafter. By the end of 1995, the project was approximately seventy-five percent completed, with a large volume of coal tar contaminated soil taken to Commercial Recycling of Scarborough for processing and eventual use as road base. A small volume of contaminated soil was taken to Dragon Products in Thomaston and batched into concrete. Remedial actions are expected to be completed in January 1996. The property will be regraded and seeded in the spring, and retained by Northern Utilities as a "greenspace".

Knowlton Foundry-Camden

MBNA New England had purchased a large downtown segment of Camden as part of their expansion of their operations. Part of their purchase included a parcel along Megunticook River which had a building which once housed a foundry and a woolen mill.

This parcel, much like the other area parcels, had a discrete layer of contamination which appeared to be deposited in an episodic event, such as a flood. This layer appeared at various depths at the site, as numerous low areas had been filled during time. The primary contaminants of concern at the site were polynuclear aromatic hydrocarbons (PAHs), metals, and specifically, benzidine, a compound often used in dyes.

As the area is served by public water and no private water supplies are located within at least 0.25 miles of the site, the primary threat to public health and the environment was the contact and/or ingestion threat and the erosion and subsequent runoff of contaminated sediments into the Megunticook River. Duffield Associates, the consultant for MBNA, developed a remedial action plan which mitigated the risks to both the public health and the environment by integrating a cap system with the planned construction activities. The cap system included the consolidation of contaminated soils under a geotextile fabric, clean soil, and either concrete or pavement. The cap system successfully prevents exposure to contaminated soils while minimizing infiltration of surface water and erosion at the site. Institutional controls limiting excavation and prohibiting groundwater extraction were required to be recorded with the Registry of Deeds.

Ultimately, the data collected from this investigation indicated that it is highly likely that a flood event spread contamination over a large area adjacent to the Megunticook River. The mitigation efforts at this MBNA parcel will likely prevent further contamination from entering the river at this site, but will not address the larger runoff/erosion problem at the other parcels adjacent to the river.

Pembroke Tank Farm-Pembroke

The Georgia-Pacific Corporation (GP) purchased this bulk fuel storage facility adjacent to the Pennamaquan River from the Gulf Oil Company in 1974. Gulf had used the facility as storage for fuel oil, kerosene, gasoline, and solar heating oil

downloaded from tankers. GP used the facility in the late 1970's for the storage of black liquor from their papermaking process.

In 1993 and 1994, GP demolished the onsite buildings and removed and cleaned all tanks. GP contracted Sevee & Maher Engineers to investigate potential contamination at the site. Sevee & Maher found large volumes of petroleum contaminated soils, and proposed an onsite removal and landfarming of these soils. Removal and landfarming efforts began in the summer of 1995 and will likely be completed during 1996. Careful monitoring of soil conditions has allowed Sevee & Maher to adjust moisture, aeration, and nutrient content of the soils to enhance the landfarming effort. Initial data from landfarmed soils indicates that the remedial actions are working and that the goals established for the site can reasonably be expected to be met.

Once the site is clean, the town of Pembroke and GP may negotiate a deal which allows the town to build a public boat launching ramp at the site.

Bangor Gas Works-Bangor

The City of Bangor, in an effort to revitalize a "blighted" area of their city, proposed a parcel of land which once was the location of the former Bangor Gas Works, for the location of a Shaw's Supermarket. The city, as the current owner of the parcel, worked with the developer, the Boulos Company, to find a suitable location in the "blighted" Main Street area where Shaw's could locate a new store. This neighborhood, which is one of Bangor's largest, was left without a market within walking distance when Shop 'n Save closed a smaller store a few years ago.

The parcel was the location of the former Bangor Gas Works and, as such, had significant coal tar contamination of both the soils and the groundwater beneath the site. Extensive investigations were performed on the property and surrounding parcels to determine the nature, extent, and migration potential of contamination in the subsurface and groundwater.

Based on these investigations, it was determined that the contamination presented a potential hazard from ingestion of groundwater or contact with soils. Fate and transport determined that eventual migration of both the lighter and heavier fractions of the coal tar contaminants from the site to the Penobscot River would result in negligible levels of contaminant discharge to the river.

Because of the presence of public water, the presence of other offsite sources of groundwater contamination in the area, and the fact that no private wells are located within at least 0.25 miles of the site, it seemed highly unlikely that groundwater would be consumed. Because of the depth to the contaminated soils (at least 2.5' feet below ground surface), and the fact that the proposed construction activities for the supermarket would increase cover by 5-8' (with an additional pavement layer), it seemed improbable that contact would be an issue.

All existing underground drainage, conduit, etc., will be left in place and/or filled with cement; new drains, underground cable, etc., will be placed in the cover, thereby reducing the likelihood of worker exposure. The cap system will include the pavement layer to reduce surface water infiltration into the contaminated areas and will have a passive venting system to allow vapors (if any) to escape. Institutional controls, prohibiting excavation below the cap and extraction of groundwater, and limiting property usage to commercial and/or industrial purposes, are to be recorded with the Registry of Deeds. In addition, the city is indemnifying the Boulos Company for any

future environmental liabilities and providing tax-increment financing (TIF) to partially fund the project.

With our assistance, the Boulos Company was able to obtain a "Comfort Letter" from EPA Region I, deferring the site to the VRAP Program. Construction will begin in the spring of 1996.

279 Main Street-South Portland

Charterhouse Development Corporation (CDC) of Massachusetts purchased a vacant lot located at "Cash Corner" in South Portland. The property had formerly been a car dealer and service station and had petroleum contamination in the soils.

CDC hired Continental Remediation Systems, Inc. (CRS), who installed a powered soil-venting system to remediate the soils. The system ran from mid-summer to mid-November. Subsequent soil sampling and analysis indicated that the remedial efforts had met the stated goals.

Now that the soils have been remediated, CDC will be constructing a building which will house a new "Rite-Aid" Pharmacy.

LANDFILL CLOSURE AND REMEDIATION PROGRAM

The Landfill Closure and Remediation Program underwent some significant changes in 1995. The Program has also had the good fortune of receiving additional funding of $10,000,000 through the landfill closure portion of the November 1995 Environmental bond. Although this money was not available for closure operations in 1995, it has allowed the program to establish a budget for 1996 that will allow for continued progress towards closure of the State's identified municipal landfills.

The Unit also experienced changes in staffing patterns during 1995. A gain of 1 project manager position in January 1995 allowed the unit to level work load among its staff and to increase the overall number of sites handled by the program. Unfortunately, this same position was cut in May 1995 which resulted in some disruption in the handling of projects and an overall increase in workload for the remaining staff. Due to changes in the Department's staffing patterns as the result of departmental organization, the landfill closure program was identified for an administrative move to the Bureau of Land and Water Management which will be renamed the Bureau of Watershed management. Although these changes were somewhat disruptive (in the short term) the of the program is assured for at least two years.

Of the 391 municipal landfills identified in the State, a total of 206 landfill sites have been officially, as of December 31, 1995. Seventeen are partly closed, and 168 remain to be closed. During the 1995 calendar year, it is estimated that an additional 50 landfill sites were closed. These figures will be officially tabulated during the January to February 1996 reimbursement process.

Policy Changes:

As a result of new legislation in 1994, municipalities are allowed to determine for themselves (with proper documentation) whether their landfill meets the eligibility requirements for a "reduced procedure" closure. The reduced procedure is a further evolution of the ICAG procedure implemented by the Department in 1993.

Towns that determined that they were eligible for the reduced procedure, were able to proceed immediately with the implementation of their closure without obtaining an advance permit from the DEP. These changes were important in aiding many smaller Maine municipalities to reduce costs and expedite the closures of their landfill in 1995.

This legislation also made changes in the provision of State cost sharing levels for closure/remediation work. In most cases the State pays 75% of eligible expenses. Municipalities were required to form an agreement with the State by July 1, 1994 in order to preserve this funding arrangement. The new legislation reduces the State cost share to 50% for closure agreements reached after July 1, 1994 and to 30% for closure costs incurred after January 1, 1996 if closure agreements have not been filed with the department. Some municipalities that did file the necessary agreement were allowed to delay their final closure until 1996 if they showed progress towards final closure by implementing evaluation, design or initial grading construction work. These municipalities are still eligible for the 75% state cost share support. Municipalities who do not close their facilities by the end of 1996 will have this funding support reduced unless a license, closure order or other written agreement is obtained.

Bond Funding Status

Maine voters have approved 7 of 8 landfill closure bonds totaling $59 million. As of December 31, 1995, $49 million has been made available to the DEP.

The $49 million in bond funds made available to date has been allocated as follows:

- $33.9 million in direct payments to 240 municipalities as grants or reimbursements for closure work
- $10.2 in payments to towns or State consultants for landfill evaluations and planning work
- $4.9 million remains to be spent but is committed to on-going Town reimbursements, consultant contracts, and encumbered grants.

Approval for DEP access to the remaining $10 million bond approved in November 1995 is pending. This bond will be allocated as follows:

- $4.6 million in direct reimbursement payments to municipalities
- $0.5 million in payments to State consultants for landfill evaluations
- $4.4 million in grant payments to support closure projects in 1996
- $0.5 million will be reserved to cover any unanticipated closure or remediation expenses.

Any remaining balance at the end of the 1996 construction season will be applied to direct payments to towns.

Reimbursement/Closure Status

Of the 391 municipal landfills identified in the State, a total of 206 landfill sites have been closed, as of December 31, 1995. Sixteen are partly closed, and 169 remain to be closed as of December 1995. During the 1995 calendar year, an estimated 50 landfill sites were closed. However, these figures are currently being tabulated

The average cost per acre for landfill closures has been reduced from $74,000/acre in 1992 to $40,000/acre in

1995. Some of this reduction is a reflection of the "Interim Cover and Grading" (ICAG) procedure in 1993 and its successor, the Reduced Closure procedure implemented by the Department in 1995.
The closure costs reported by municipalities as of December 31, 1995 total approximately $57.7 million. The State share of municipal closure expenses as of December 31, 1995 total approximately $46 million. In most cases the State has paid 75% of eligible expenses. Approximately 170 towns received $16 million in direct payments in 1995 for their landfill closures.

Based on available information, approximately 150 municipalities with identified landfills have yet to receive grants or reimbursements from the State and can be funded only through future bond issues in addition to the $59 million already approved. The estimated total closure costs, including evaluation, design and capping for these landfills is estimated at $30 to $40 million at a minimum. Total future closure costs are unknown but are estimated to average $60,000/acre to 75,000/acre due to a number of moderate to higher risk landfills needing higher levels of closure. The minimum cost of capping all 390 landfills in the State is now estimated at approximately $86.7 million. Future remediation, additional evaluation expenses, and unanticipated reimbursement requests will occur and will add to the total closure costs, but cannot be realistically estimated at this time.

The Unit's evaluation list indicates that 101 municipal landfills have been or are now being evaluated to determine the nature and degree of environmental and public health threats as the basis for appropriate closure planning, design and construction. At least 47 additional landfills await evaluation. The Department will be attempting to conduct 10 of these evaluations in the coming season.

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